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Editorial

Sexually transmitted diseases in Africa

In Africa sexually transmitted diseases (STDs) have become a major public health problem on account of their frequency, their impact on maternal and child health and their social and economic consequences (including increased health expenditure and lost productivity).[1–18] STDs are known to cause serious harmful effects on fertility, pregnancy and the neonate. Some infections may cause pregnancy wastage, failure of normal foetal development, congenital abnormalities, neonatal blindness and in women life threatening complications such as pelvic inflammatory disease (PID) and ectopic pregnancy.

Gonorrhoea is probably the commonest sexually transmitted disease in Africa and constitutes a serious health problem not only because of its frequency and the increasing costs of effective therapy but also because of the complications that result, including blindness from ophthalmia neonatorum, PID and puerperal sepsis. Gonorrhoea is the commonest cause of pelvic inflammatory disease in most parts of the developing world. Pelvic inflammatory disease is a potentially life-threatening complication and may lead to infertility and ectopic pregnancy. In addition, as a result of the spread of penicillinase-producing strains of *Niesseria gonorrhoeae* (PPNG) in such parts of the world, the costs of effective therapy have escalated. Where effective programmes for the control of STD at a national level do not exist the infection has spread rapidly. In some countries in Africa up to 85% of all gonococcal infections are caused by PPNG.[19]

The prevalence of chlamydial infections has also been increasing, and like gonorrhoea, chlamydia may lead to salpingitis, infertility and ectopic pregnancies. Chlamydial ophthalmia neonatorum though not as hazardous as gonococcal ophthalmia neonatorum is also frequently encountered in many African countries.[6]

Gonococcal and chlamydial infections may be responsible for the high levels at infertility and an increase in ectopic pregnancy, pregnancy wastage and perinatal morbidity in some populations. Workers in Nairobi, Kenya, report the annual incidence of gonococcal and chlamydial ophthalmia neonatorum as 36 per 1000 and 81 per 1000 neonates respectively.[6] They also report that 31% of infants exposed to maternal chlamydial infection developed chlamydial ophthalmia neonatorum while the transmission rate of gonococcal infection from infected mother to neonate was 39%. Women with pelvic inflammatory disease tend to develop severe infections if they are also HIV positive. Such patients develop repeated attacks of PID and should therefore be carefully observed.[20]

Chancroid is by far the commonest cause of genital ulcer disease in sub-Saharan Africa[21] though in some countries in West Africa genital herpes or syphilis are commoner.[21] Chancroid is found more commonly in uncircumcised men[22] and in areas where the infection is prevalent it is found more often in men than in women. The reason for this discrepancy is not clearly understood; however, it is known that in endemic areas chancroid is often found in female prostitutes.[23] Though the infection is not life threatening it can cause extensive soft tissue destruction and can lead to autocircumcision and partial amputation of the penis especially when lesions are secondarily infected with anaerobes as occurs in uncircumcised men who develop sub-preputial lesions and have a relative phimosis as a result of oedema of the foreskin.

Chancroid may present in an atypical way in patients with HIV infection. Such patients develop extensive and persistent genital ulcers without developing inguinal bubos.[24] This condition occurs as a result of the absence of functioning T lymphocytes in the inguinal lymph nodes. Though ulcers are positive for *Haemophilus ducreyi* patients do not respond to the usual short course chemotherapeutic regimens recommended for the treatment. Persistent chancroid ulcers without bubos in patients with HIV infection has been termed "non-reactive chancroid".[24] HIV infected persons with reasonable cell mediated immunity who acquire chancroid may develop bubos but again the response to therapy is poor.[25]

In Africa where intravenous drug abuse and homosexuality are rarely encountered HIV infection occurs almost equally in men and women.[26] The transmission of HIV is associated with a different set of behaviours from those described in the West. In Africa risk factors for the acquisition of HIV include heterosexual promiscuity, prostitution, and the acquisition of other sexually transmitted diseases especially genital ulcer disease. There is now a great volume of evidence suggesting that genital ulceration facilitates the transmission of HIV and that the explosive spread of HIV through heterosexual intercourse in Africa may in part have been caused by

the introduction of HIV in a sexually active community where genital ulcer disease is one of the commonest forms of sexually transmitted disease.[27 28] It is known that patients with more advanced symptomatic HIV infection shed more virus and have a greater degree of viraemia when compared with asymptomatic HIV infected subjects.[29] However, patients with more advanced immunosuppression tend to develop genital ulcers as a result of candidal and bacterial balanoposthitis and genital herpes.[27] Hence it is postulated that the breakdown of the epithelial barrier of the genitalia facilitates the transmission of HIV in persons with more advanced symptomatic HIV infection. Vertical transmission from mother to foetus/neonate is responsible for infection in children. The role of traditional practices in the infection of children has also been suggested; however, the practise has not as yet been proven to be a significant mode of transmission. The role of breast milk in the vertical transmission of the virus is probably not significant considering the fact that breast feeding is a universal practice in developing countries yet only 35 to 50% of children born to infected mothers are infected.[30-32]

Another factor associated with HIV acquisition is the presence of an intact foreskin. Studies carried out in Nairobi, Kenya, have shown that the risk of a man becoming infected from an infected woman is 8% following a single sexual contact and this risk increases to 38% if the man also acquired a genital ulcer at the time of the exposure.[28] This study has also reported that the presence of the intact foreskin is an independent risk factor for the acquisition of HIV. In Zimbabwe in a study of married couples where the husband was the index case for HIV infection it was found that 61% of the wives were also infected.[27] In this study it was found that wives were significantly more likely to be HIV positive if the husband gave a history of having had genital ulcer disease in the previous two years or if the husband had more advanced symptomatic HIV infection.

The prevalence of syphilis remains high in a number of African countries. In Ethiopia congenital syphilis was found to be the fourth commonest cause of perinatal mortality[33] and in Zambia, it has been estimated that congenital syphilis accounts for up to 30% of perinatal deaths.[17]

There have been a number of reports stating that patients with HIV infection who develop syphilis do not respond to the short courses of penicillin that are currently recommended.[34] In addition it has been suggested that in some patients with HIV, infection with *Treponema pallidum* progresses to neurosyphilis despite adequate therapy of early syphilis. In many parts of Africa where syphilis and HIV are both common these observations may have important implications in terms of treatment and the natural history of syphilis.

Other STDs such as genital herpes and genital warts are commonly encountered. Genital herpes accounts for about 8% of genital ulcers in Kenya and Swaziland.[14 35] Immunosuppressed patients with genital herpes develop recurrent and persistent genital ulcers. Female patients with HIV infection who develop genital herpes often present with extensive ulceration of the labia, vagina and perineum.[20] Such ulceration causes severe pain and obtundation. Secondary bacterial infection is a common complication. Male patients with genital herpes and HIV infection develop persistent ulceration of the penis usually in the coronal sulcus. Such ulcers extend in a circumferential way causing extensive soft tissue destruction.[20]

In most African countries health care is available through community based health care systems (which include polyclinics, primary care clinics and rural health centres) and through hospital based health care systems (including central, provincial and district hospitals). Some countries have in addition a private medical service which serves only a small proportion of the population.[36] The hospital sector may serve up to 20% of the population[37 38] while the community based services deliver health care to 80–90% of the population. Services available at community based facilities are both curative and preventative and include among other services child spacing, maternal and child care, nutrition programmes, sanitation and health education. The health staff at the primary health care level consists mainly of nurses, paramedicals and auxiliaries though in some areas doctors are available to lead the team.[39 40] In order to make maximal use of scarce manpower, facilities for the management of sexually transmitted diseases including HIV should be incorporated within the primary health care service and health care providers should be trained in the diagnosis of STD associated syndromes and rational drug prescribing. Management protocols in the form of algorithms should be developed depending on the pattern of disease prevalent in the area and the pattern of antimicrobial sensitivity of pathogenic agents. This decentralised and integrated approach to the management of sexually transmitted diseases has been in practise for some years now in Zimbabwe.[41] This syndromic approach to the management of sexually transmitted diseases may be implemented with minimal economic input. However, the programme depends heavily on adequate training of the STD health care provider which may be carried out at the central referral centre where medical expertise and laboratory facilities are concentrated.

If the spread of STD's in Africa is to be halted, the widespread provision of such programmes is urgently required.

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